

**TECHNIQUES FOR AUTOMATED SWEEPING OF PARAMETERS IN  
COMPUTER-AIDED DESIGN TO ACHIEVE OPTIMUM  
PERFORMANCE AND RESOURCE USAGE**

**ABSTRACT OF THE DISCLOSURE**

[0098] Techniques for optimizing the placement and synthesis of a circuit design on a programmable integrated circuit are provided. The performance of a circuit design is analyzed after it has been compiled with different values for selected input parameters. The input parameter values that produce the best results for an output metric are then chosen to synthesis and place the circuit design on the programmable integrated circuit. In one embodiment, the values of the output metrics are averaged for all test compiles that share the same input parameters, but different seeds. In another embodiment, the compile with the best output metrics, as determined by the user, are selected. These techniques allow a user to automatically trade off compile-time to get a better-optimized circuit.

PA 3318782 v1